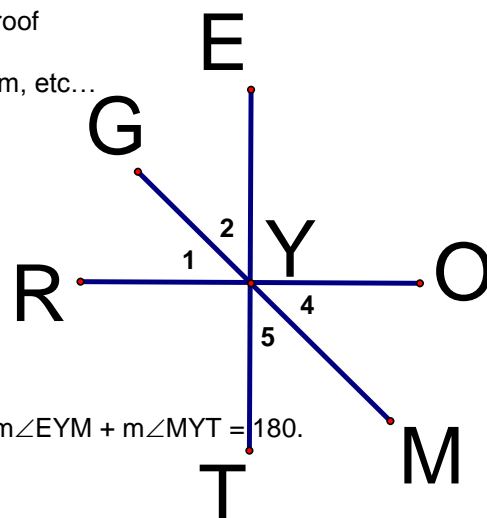


Name _____ Date _____
 201 Chapter 2 Justify Statements and Writing Proof

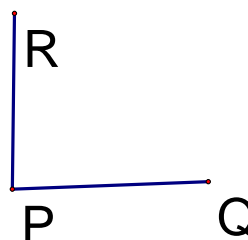
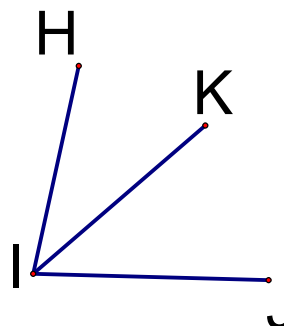
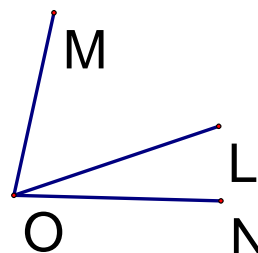
Justify the following statements with a definition, postulate, property, theorem, etc...

1. _____ \overline{YM} bisects $\angle TYO$, then $m\angle 4 = m\angle 5$.
2. _____ $RY + YO = RO$
3. _____ If $\angle RYE$ is a right angle, then $m\angle RYE = 90$.
4. _____ If $\overline{RO} \perp \overline{ET}$, then $\angle EYO$ is a right angle.
5. _____ If Y is the midpoint of \overline{GM} , then $GY = YM$.
6. _____ If $\angle EYM$ and $\angle MYT$ are supplementary, then $m\angle EYM + m\angle MYT = 180$.
7. _____ $m\angle RYE + m\angle EYO = m\angle RYO$
8. _____ Look at the picture, $\angle GYE$ and $\angle GYT$ are a linear pair.
9. _____ If #8 is true, then $\angle GYE$ and $\angle GYT$ are supplementary.
10. _____ If $m\angle 1 + m\angle 2 = 90$, then $\angle 1$ and $\angle 2$ are complementary.
11. _____ $\angle 2 \cong \angle 5$



Draw conclusions based on the given information. Then justify your conclusions with a definition, postulate, property, theorem, etc...

12. Given: picture (L lies in the interior of $\angle MON$)
 Conclusion: _____
 Reason: Angle addition postulate
13. Given: $\angle 2$ and $\angle 3$ are complementary; $\angle 5$ and $\angle 3$ are complementary
 Conclusion: _____
 Reason: The congruent complements theorem
14. Given: \overline{IK} bisects $\angle HIJ$
 Conclusion: _____
 Reason: _____
15. Given: $\overline{RP} \perp \overline{PQ}$
 Conclusion: _____
 Reason: Definition of perpendicular lines
16. Given: $\angle 1$ and $\angle 3$ are supplementary; $\angle 2$ and $\angle 3$ are supplementary
 Conclusion: _____
 Reason: The congruent supplements theorem

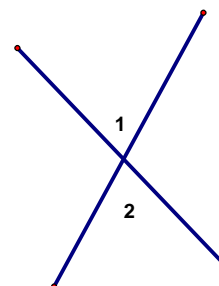


17. Given: $\angle B$ is a right angle
 Conclusion: _____
 Reason: Definition of a right angle

18. Given: M is the midpoint of \overline{AB} .
 Conclusion: _____
 Reason: _____

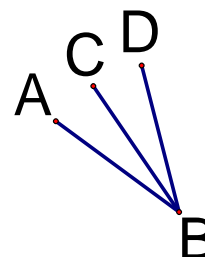


19. Given: PICTURE
 Conclusion: _____
 Reason: Vertical angles are congruent



20. Given: $\angle 1$ and $\angle 2$ are complementary; $\angle 4$ and $\angle 3$ are complementary; $\angle 1 \cong \angle 4$
 Conclusion: _____
 Reason: The congruent complements theorem

21. Given: \overline{BC} bisects $\angle ABD$
 Conclusion: _____
 Reason: _____



22. Given: picture
 Conclusion: _____
 Reason: Segment addition postulate

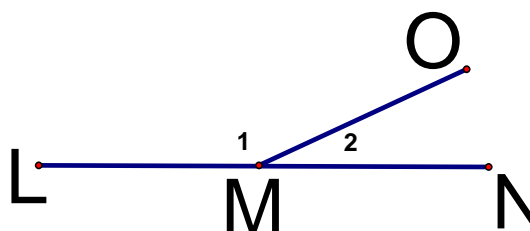


23. Given: $\angle 1$ and $\angle 2$ are supplementary; $\angle 7$ and $\angle 8$ are supplementary; $\angle 1 \cong \angle 7$
 Conclusion: _____
 Reason: The congruent supplements theorem

25. a. Given: picture
 Conclusion: _____
 Reason: The definition of a linear pair

- b. Conclusion: _____
 Reason: The linear pair postulate

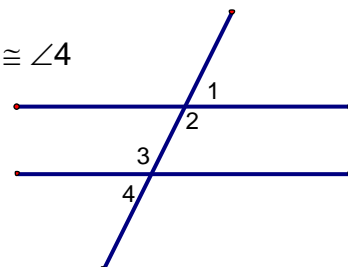
- c. Conclusion: _____
 Reason: Def. of supplementary



Proofs

1. Statements

Reasons

Given: $m\angle 2 = m\angle 3$ Prove: $\angle 1 \cong \angle 4$ 

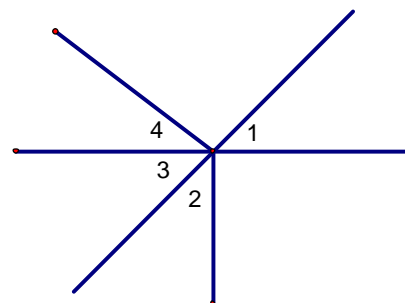
2. Statements

Reasons

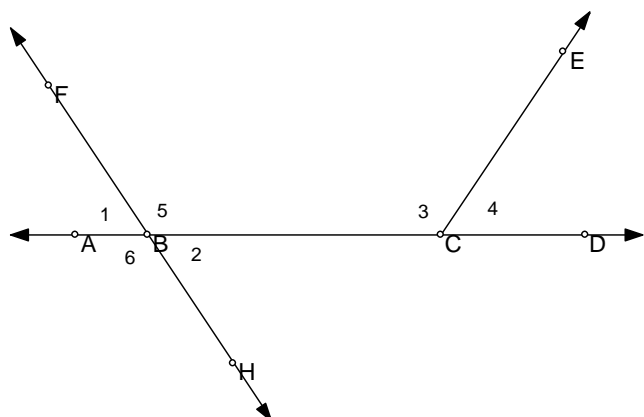
Given: B is the midpoint of \overline{AC}
C is the midpoint of \overline{BD} Prove: $AB = CD$ 

3. Statements

Reasons

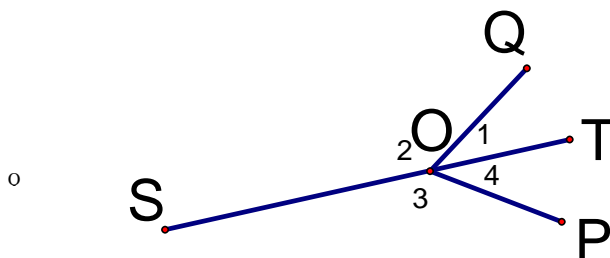
Given: $\angle 1$ and $\angle 4$ are complementary
 $\angle 2$ and $\angle 3$ are complementaryProve: $\angle 2 \cong \angle 4$ 

4. Given: $\angle 2$ and $\angle 3$ are supplementary
 Prove: $\angle 1 \cong \angle 4$



Statements	Reasons

5. Given: \overline{OT} bisects $\angle QOP$
 Prove: $\angle 3 \cong \angle 2$



Statements	Reasons